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A NEW AMERICAN GENUS OF PREDACEOUS MIDGES RELATED TO *PALPOMYIA* AND *BEZZIA* (DIPTERA: CERATOPOGONIDAE)

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Abstract.—*Amerohelea,* a new American genus of predaceous midges, is described and illustrated. Included in this new genus are *Palpomyia sordidipes* Macfie and *Bezzia frontispina* Dow and Turner (New Combinations), and the following eight New Species: *dalcyi, fasciata, galindoi* (type-species), *nelsoni, pseudofasciata, ronderosi, spinellii,* and *vargasi. Amerohelea* is distinguished from *Palpomyia* and *Bezzia* by its single spermatheca and a single pair of gland rods arising near the lateral margins of the seventh abdominal segment.

Introduction

While involved in revisionary studies on nearctic *Palpomyia* (Grogan and Wirth 1975, 1979), we encountered specimens that differed from other members of that genus in possessing only a single spermatheca. A search of the collections at the National Museum of Natural History (USNM) in Washington, D.C., yielded many similar specimens. Further examination of these specimens revealed that they possessed several other characters that distinguished them from *Palpomyia.* A formal description of these individuals in a new genus was postponed to a later date, as nearly all of the species are neotropical, and our studies on *Palpomyia* were on the nearctic fauna. The name of the new genus is based on its apparent restriction in distribution to the Americas.

Apparently only two species of this new genus have previously been described, *Palpomyia sordidipes* Macfie (1939) and *Bezzia frontispina* Dow and Turner (1976). This is the case despite many species of *Palpomyia* having been described from the Neotropical Region by Lane (1947, 1960), Lane *et al.* (1955), and Macfie (1939). This is also true for *Bezzia* (Lane 1958), but to a lesser extent, as it appears that this genus is less well represented in the Neotropics.

The specimens examined in this study were mounted on slides in the manner of Wirth and Marston (1968). When possible, ten females of each new species were measured and the data presented in the variation section as follows: mean value (minimum value–maximum value, n = number of measurements). For general terminology of the Ceratopogonidae see Wirth (1952) and Wirth *et al.* (1978); terms dealing with antennal sensilla are those

of Wirth and Navai (1978); terms dealing with male genitalia are those of Snodgrass (1957). We are indebted to Niphan C. Ratanaworabhan for Figures 5, 6, and 9, and to Mary McNally for Figure 2. We would also like to thank Karen Lezon for analysis of the statistical data.

Holotypes and allotypes of our new species are deposited in the National Museum of Natural History in Washington, D.C. Paratypes, as available, will be deposited in the British Museum (Natural History), London; Muséum National d'Histoire Naturelle, Paris; and the Museu de Zoologia da Universidade de São Paulo, Brazil.

Amerohelea, new genus

Type-species.—*Amerohelea galindoi,* n. sp., by present designation.

Diagnosis.—A genus of small to medium sized predaceous midges of the tribe Palpomyiini distinguished from all other ceratopogonid genera by the following combination of characters: Abdomen of female with a single pair of eversible glands and usually sclerotized gland rods arising near the lateral margins of the seventh segment, and a single spermatheca; fifth tarsomeres rather short and stout and usually bearing one or more pairs of short, straight, stout, ventral setae; claws small, equal sized with basal inner teeth; fourth tarsomeres deeply cordate; fore femur usually armed ventrally with one or more stout spines.

Description.—Small to medium sized predaceous midges, wing length 1.0–2.2 mm; body moderately robust to slender, nearly bare.

Head: Eyes bare, narrowly separated. Antennal flagellum moderately stout to slender; all flagellomeres with sensilla chaetica and sensilla trichodea; distal five flagellomeres elongate in female and bearing sensilla basiconica; distal three flagellomeres elongate in male with sensilla basiconica; flagellar plume sparse in male. Palpus moderately slender, five-segmented; third segment without a defined pit, with scattered capitate sensilla mesally. Mandibular teeth large and coarse.

Thorax: Robust; scutum with uniform fine pubescence and with a small anterior spine or tubercle. Legs slender to moderately stout; fore femur slender to moderately swollen, with 0–7 ventral spines; mid- and hindfemora non-spinose; fourth tarsomeres deeply cordate; fifth tarsomeres rather short and stout, usually bearing one or more pairs of short, straight, stout, ventral setae; claws of female small, equal sized with basal inner teeth and bifid tips. Wing narrow to moderately broad; hyaline to infuscated; surface covered with microtrichia only, macrotrichia absent; usually two radial cells present, rarely one; costa extending ¾ of wing length; no intercalary fork; medial fork broadly sessile; anal veins with downward bend near middle of second and sometimes first vein; anal lobe poorly to moderately well developed.

Abdomen: Female with a single pair of eversible glands and gland rods (usually sclerotized) arising near lateral margins of eighth segment; only one spermatheca and no evidence of vestigial one; eighth sternum large and cleft posteriorly; ninth sternum with single pair of anteriorly directed arms; tenth sternum with three or more pairs of large setae. Genitalia of male with well-developed cerci; basimere simple, telomere articulated; aedeagus usually triangular, ventral surface usually spiculate; claspettes fused basally a short distance, divided distally, basal arms usually elongate.

Immature stages.—Eggs dissected from gravid females are of the usual narrow, elongate oval shape characteristic of *Palpomyia* and *Bezzia,* without the subapical frilled collar found in the Stenoxenini. The pupa is known only for *Amerohelea sordidipes* (Macfie), which Lane *et al.* (1955) described from Brazil. The description is too short and the figures too sketchy to show diagnostic characters, except that the respiratory horn is figured as slightly swollen in midportion, spindle-shaped, with the apex narrowed and bearing apically apparently only one spiracular opening. The operculum is of an unusual shape, much broader than long, without distinct sublateral tubercles, but with the lateral margins forming broad lobes and the anterior margin somewhat scalloped.

Relationships.—The short, stout setae on the fifth tarsomeres of female *Amerohelea* are reminiscent of the batonnets found in the Sphaeromiini, and indeed individuals could mistakenly be keyed to that tribe (couplet 8) in Wirth *et al.* (1974). Females, however, lack the dense setae on the eighth sternum that characterize sphaeromiine genera. The presence of abdominal gland rods further distinguishes female *Amerohelea* from that tribe and indicates that the genus belongs in either the tribe Palpomyiini or Stenoxenini. We conclude that it is a member of the Palpomyiini because it lacks the following three apotypic character states that distinguish the Stenoxenini: (1) female with eighth segment narrowed distally, (2) egg with frilled subapical collar, (3) body unusually slender and flattened dorsoventrally (Grogan and Wirth 1979).

Because most members of *Amerohelea* possess two radial cells, this new genus is apparently most closely related to *Palpomyia.* In addition, their male genitalia also resemble those of *Palpomyia,* more so than *Bezzia,* but do not readily fit exactly into any of the species groups of *Palpomyia* as defined by Grogan and Wirth (1975, 1979). It appears that species of *Amerohelea* are more specialized than either *Palpomyia* or *Bezzia* for two reasons: (1) they possess only a single spermatheca with no evidence of a vestigial one, and (2) they have only a single pair of gland rods that arise near the lateral margins of the abdominal segment. The short, stout setae on the fifth tarsomeres of *Amerohelea* are similar to those present on members of the *tibialis* and *lineata* groups of *Palpomyia* (Grogan and Wirth 1979) and in some of the subgenera or groups of *Bezzia.* However, the setae

on the fifth tarsomeres of *Palpomyia* and *Bezzia* differ from those of *Amerohelea* in being longer, with more slender, curved tips. The presence of these setae may indicate that *Amerohelea* may have evolved from an ancestor similar to members of the *tibialis* group of *Palpomyia*.

Biology.—Although nothing is presently known of the natural history of this new genus, by comparing them with another better known group we may speculate on their feeding behavior. The small female claws are similar to those of the *flavipes* group of *Palpomyia* (Grogan and Wirth 1979) except that they have small basal inner teeth. Members of the *flavipes* group possess small, broad mandibles with 5–6 large teeth that are indistinguishable from those of *Amerohelea*. These *Palpomyia* species with reduced, small claws and a mandible of this configuration have been recorded feeding only on Ephemeroptera, not Chironomidae or other Ceratopogonidae, which are the usual prey of other *Palpomyia* and other genera of predaceous ceratopogonids (Downes 1978; Grogan and Wirth 1979). The morphological similarities between *Amerohelea* and the *flavipes* group of *Palpomyia* indicate that the former may also utilize mayflies as prey.

Key to the Species of *Amerohelea*

1. Wing with one radial cell; frontoclypeus with numerous stout spines ..... 10. *frontispina* (Dow and Turner)
– Wing with two radial cells; frontoclypeus with slender hairlike setae 2
2. Hind femur with distinct subapical yellowish band 3
– Hind femur brown, without subapical yellowish band 4
3. Wing hyaline; palpal ratio 2.0–2.5; ratio of flagellum length to wing length 0.72–0.84 ..... 1. *fasciata*, n. sp.
– Wing infuscated; palpal ratio 2.7–3.3; ratio of flagellum length to wing length 0.60–0.66 ..... 2. *pseudofasciata*, n. sp.
4. Fifth tarsomeres without ventral setae 5
– Fifth tarsomeres with one or more pairs of ventral setae 6
5. Spermatheca with distinct long neck; wing length less than 1.1 mm ..... 3. *dalcyi*, n. sp.
– Spermatheca without a neck; wing length 1.5 mm or greater ..... 4. *nelsoni*, n. sp.
6. Fore femur unarmed; fifth tarsomeres with only a single pair of setae ..... 5. *spinellii*, n. sp.
– Fore femur with one or more ventral spines; fifth tarsomeres with two or more pairs of setae 7
7. Fore femur with 1–2 spines 8
– Fore femur with 3–6 spines 9
8. Fore femur with one spine (rarely 0–2); claspettes of male genitalia with slender distal portions curving inward ..... 6. *galindoi*, n. sp.

– Fore femur with two spines (rarely 1–3); claspettes of male genitalia with broad distal portions straight ..... 7. *vargasi,* n. sp.

9. Legs uniformly brownish; fore femur swollen; antennal ratio 1.35 ..... 8. *ronderosi,* n. sp.

– Legs with hind leg darkest, fore and mid legs lighter in shade; fore femur slender; antennal ratio 1.39–1.49 ..... 9. *sordidipes* (Macfie)

1. *Amerohelea fasciata,* new species
Figs. 1a–d, 3a

Diagnosis.—Distinguished from all other species in the genus except *A. pseudofasciata* n. sp. by its yellowish legs with a distinct subapical yellow band on the dark hind femur. From *pseudofasciata* it is distinguished by its hyaline wing with narrow anal angle (wing infuscated with broader anal angle in *A. pseudofasciata*), palpal ratio 2.0–2.5 (2.7–3.3 in *A. pseudofasciata*), and ratio of flagellum length to wing length 0.72–0.84 (0.60–0.66 in *A. pseudofasciata*).

Holotype female.—Wing length 1.82 mm; breadth 0.54 mm.

Head: Dark brown; eyes very narrowly separated (a distance of 0.019 mm). Antennal flagellum (Fig. 1a) light brown on basal halves of proximal four flagellomeres, remainder brown; flagellomeres with lengths in proportion of 29-17-17-17-17-18-18-22-45-45-47-47-57; antennal ratio 1.55; flagellum very long and slender, total length 1.47 mm; ratio of flagellum length to wing length 0.81. Palpus light brown; segments with lengths in proportion of 7-10-14-10-12; third segment with 5–6 mesal capitate sensilla; palpal ratio 2.00. Mandible with five large coarse teeth.

Thorax: Dark brown; anterior scutal spine well developed. Legs (Fig. 1c) yellow, hind femur except for subapical band, and hind tibia dark brown, proximal third of mid femur light brown, fore femur with four spines; tarsi brown except yellowish on proximal two tarsomeres of fore and mid legs; fifth tarsomeres similar to those of *A. galindoi,* n. sp. (Fig. 6j) with two pairs of stout setae. Wing (Fig. 1b) hyaline with narrow anal angle; anterior veins brown, posterior veins pale; costal ratio 0.78. Halter dark brown.

Abdomen: Brown; gland rods extending the length of 2½ segments; spermatheca not visible due to improper mounting, that of a paratype (Fig. 1d) is spheroid with stout, short neck, measuring 0.074 by 0.055 mm.

Allotype male.—Similar to female except smaller, legs brownish, hind femur without yellowish subapical band and with the usual other sexual differences. Genitalia as in Fig. 3a. Ninth sternum with curved base, four times broader than long; ninth tergum tapering gradually distad to a broad rounded tip, cerci extending well beyond basimeres with single large subapical and single large apical setae. Basimere nearly straight, about twice as long as broad; telomere about ⅔ length of basimere, tapering slightly distally to a greatly curved, broadly pointed tip. Aedeagus slightly broader

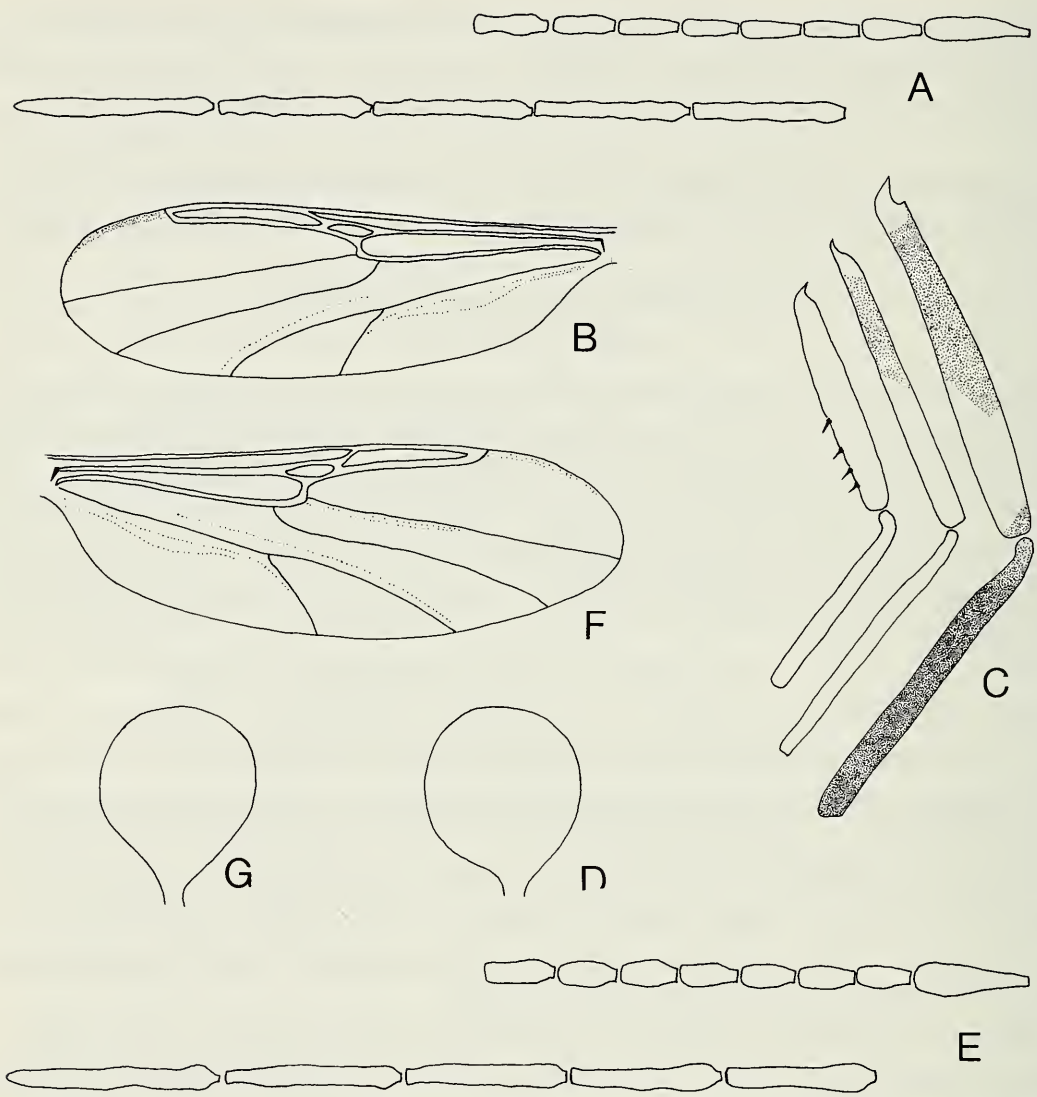

Fig. 1. *Amerohelea fasciata* (A–D) and *A. pseudofasciata* (E–G): A, E, antennal flagella; B, F, wings; C, legs; D, G, spermatheca.

than long, shape quite different from other species in the genus, membrane but not ventral surface spiculate, basal arch ½ of total length; basal arm heavily sclerotized, curved slightly to a pointed tip; distal portion with broad rounded lateral projections, mesal portion slender proximally, then expanding abruptly distad into a nearly round process with small, pointed, heavily sclerotized, anteriorly projecting points. Claspettes fused on basal portion; basal arm recurved angularly at about 120°, tip broad and paddle-shaped; distal portion divided into broad halves each curving outward away from each other, then inward to where the rounded tips face each other.

Variation.—Wing length 1.81 (1.64–2.07, n = 10) mm; breadth 0.54 (0.56–0.64, n = 10) mm. Antennal ratio 1.55 (1.44–1.66, n = 9); flagellum length 1.40 (1.23–1.58, n = 9) mm; ratio of flagellum length to wing length 0.78

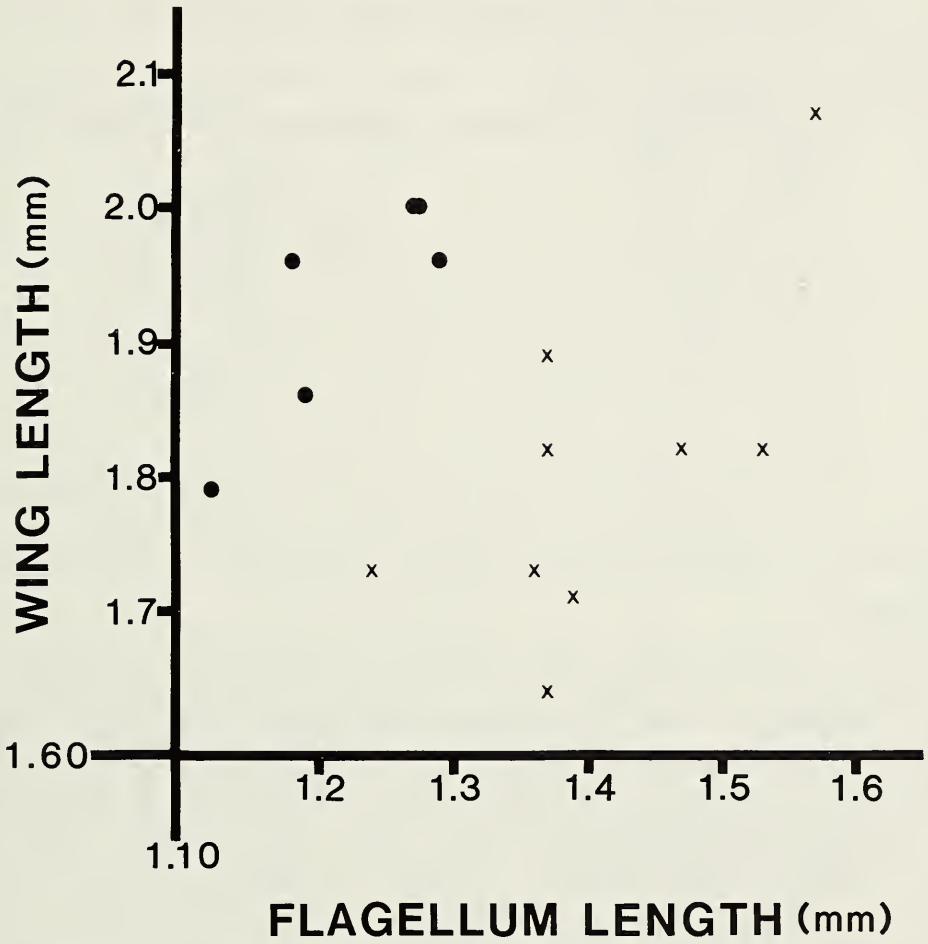

Fig. 2. Scatter diagram showing correlation between wing length and flagellum length in *A. fasciata* (X) and *A. pseudofasciata* (solid circles). Significant at 5% level.

(0.72–0.84, n = 9). Palpal ratio 2.27 (2.00–2.50, n = 10). Costal ratio 0.79 (0.77–0.81, n = 10). Fore femoral spines 3–5.

Distribution.—Mexico south to Colombia.

Types.—Holotype female, Belize, Augustine, 1.viii.1968, W. L. Haase, black light (Type no. USNM 76569). Allotype male, Belize, Cayo Dist., Western Highway MP66, vi.1969, W. & D. Haase, light trap. Paratypes, 62 females, as follows:

BELIZE: Same data as holotype, 27 females. Same data as allotype, 14 females. Cayo Dist., Central Farm, MP67, 15.vii.1968, W. L. Haase, black light, 1 female. Columbia Forest Station, vii.1968, W. L. Haase, black light, 1 female.

COLOMBIA: Valle, Rio Raposo, xii.1963, V. H. Lee, light trap, 1 female.

COSTA RICA: Limon Prov., La Lola near Matina, 11.iii.1965, W. D. Duckworth, 1 female.

HONDURAS: Comayagua, Comayagua, 4.vii.1966, J. F. Matta, 1 female;

Table 1.—Comparison of the ratios of flagellum length to wing length in *A. fasciata* and *A. pseudofasciata*, significant at 0.5% level.

A. fasciata	*A. pseudofasciata*
0.81	0.66
0.84	0.64
0.72	0.63
0.79	0.64
0.84	0.60
0.81	0.64
0.75	$\bar{x}$ = 0.63 (n = 6)
0.76	
0.72	
$\bar{x}$ = 0.78 (n = 9)	

F. S. Blanton, 1 female. Francisco Morazan, Zamorano, iv.1965, F. S. Blanton, 1 female.

MEXICO: Morelos, San Luis Potosi, El Salto Falls, iv.1965, H. V. Weems, 1 female; 17.vi.1969, W. & D. Haase, light trap, 3 females. Sonora, 10 mi E Navajoa, 13.viii.1959, Werner & Nutting, light trap, 2 females. Tabasco, Rio Puyacatengo, E Teapa, 28.vii.1966, Flint & Ortiz, 5 females.

PANAMA: Canal Zone, Loma Borracho, 23.x.1951, F. S. Blanton, light trap, 1 female; Mojinga Swamp, i.1952, 1953, F. S. Blanton, light trap, 3 females. Chiriqui Prov., David, vii.1964, A. Broce, 1 female; Dolega, 25.vi.1964, A. Broce, 1 female. Cocle Prov., Anton, 11.xi.1952, F. S. Blanton, light trap, 1 female. Colon Prov., Cativa, 27.viii.1952, F. S. Blanton, light trap, 1 female. Darien Prov., Santa Fe, 11.ix.1964, A. Broce, 1 female. Panama Prov., La Jolla, 21.x.1953, F. S. Blanton, light trap, 1 female; Tocumen, i.1953, F. S. Blanton, light trap, 3 females.

Discussion.—This species is named after the distinct subapical yellowish band on the hind femur. We first sorted out this species from its sibling *A. pseudofasciata* on the basis of the darker wing with broader anal angle in the latter species. Examination of other characters led us to believe that two nearly identical species were present, separated from one another by a large geographical area. In addition to the wing characters, the palpal ratio of *A. pseudofasciata* is greater than that of *A. fasciata* (2.67–3.33 versus 2.00–2.50). These differences should be sufficient to separate the two species, but we also discovered that there was a definite correlation between the wing length and flagellum length that further differentiates these two siblings (Fig. 2). This correlation is statistically significant at the 5% level.

2. *Amerohelea pseudofasciata,* new species
Fig. 1e–g

Diagnosis.—Distinguished from all other species in the genus except *A. fasciata,* n. sp. by its yellowish legs with a distinct subapical yellow band

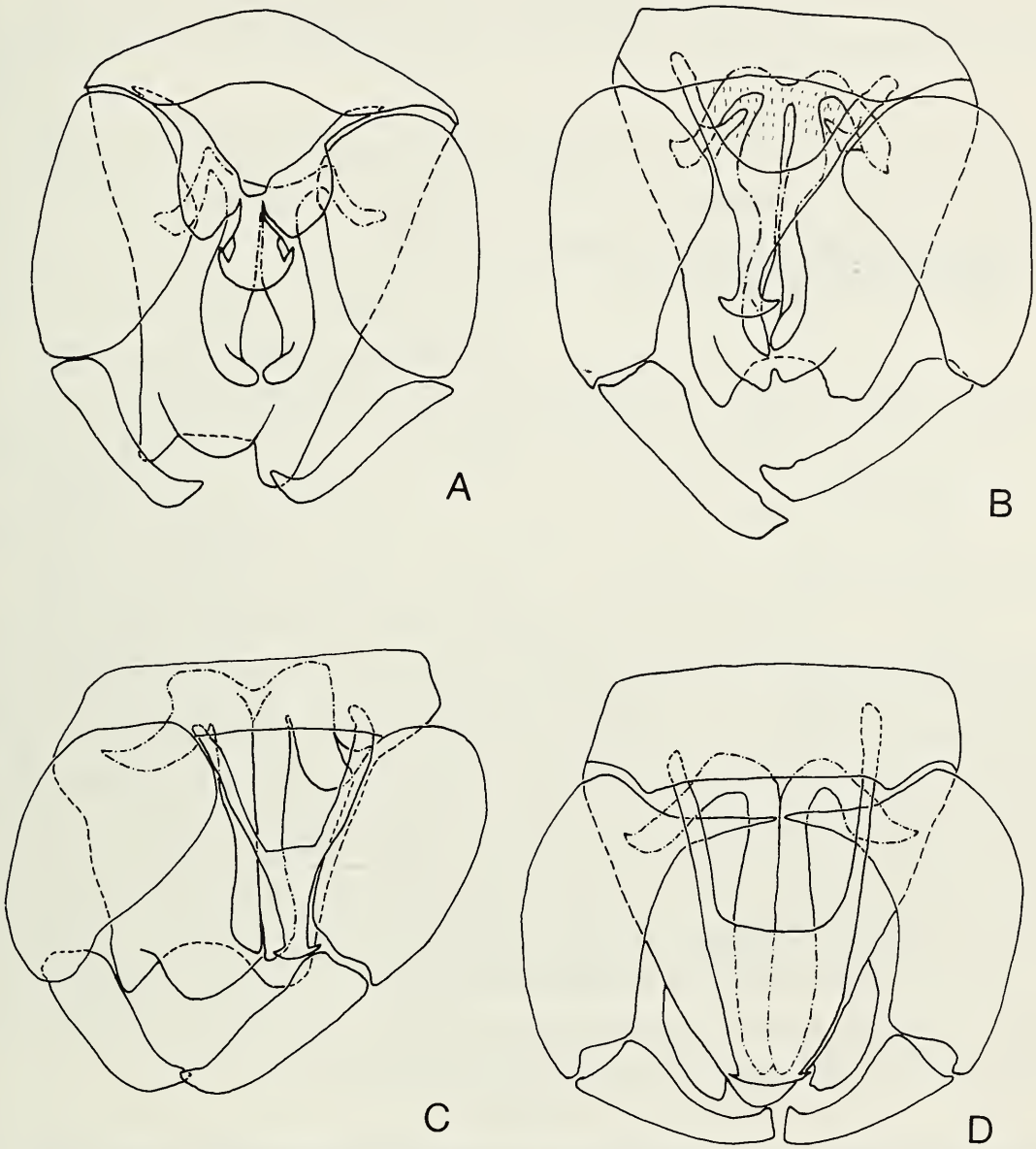

Fig. 3. Male genitalia of *Amerohelea* spp.: A, *A. fasciata*; B, *A. galindoi*; C, *A. vargasi*; D, *A. ronderosi*.

on the dark brown hind femur. From *A. fasciata* it is distinguished by its infuscated wing, palpal ratio 2.67–3.33, and flagellum length to wing length ratio 0.60–0.66.

Holotype female.—Wing length 2.00 mm; breadth 0.68 mm.

Head: Dark brown; eyes narrowly separated (a distance of 0.022 mm). Antennal flagellum (Fig. 1e) brown on proximal eight flagellomeres, darker brown on distal five flagellomeres; flagellomeres with lengths in proportion of 27-14-14-15-15-15-15-18-39-40-41-44-47; antennal ratio 1.59; flagellum long and slender, total length 1.27 mm; ratio of flagellum length to wing length

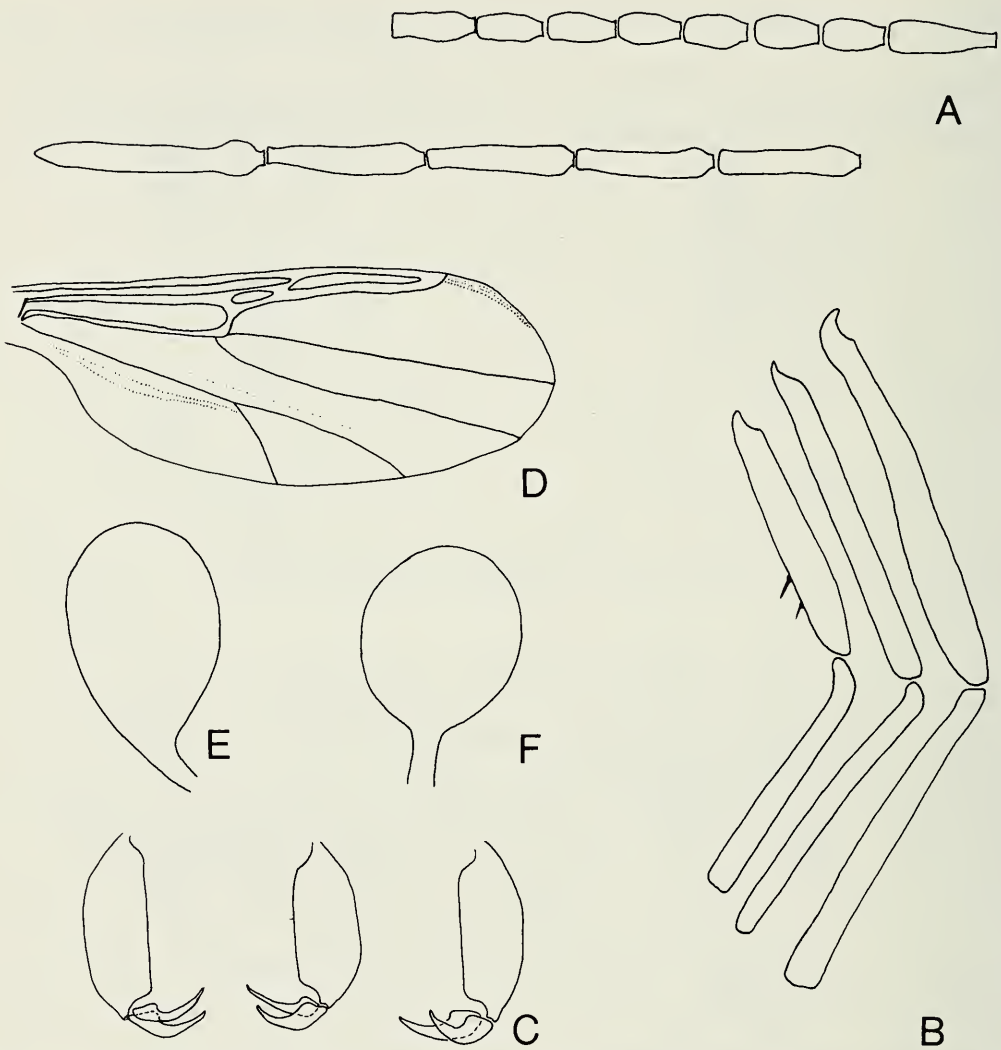

Fig. 4. *Amerohelea dalcyi:* A, antennal flagellum; B, legs; C, 5th tarsomeres and claws; D, wing; E, F, spermathecae.

0.64. Palpus light brown; segments with lengths in proportion of 6-12-18-11-12; third segment with 3–4 capitate sensilla on mesal side; palpal ratio 3.00. Mandible with five large coarse teeth.

Thorax: Dark brown; anterior scutal spine not visible due to distortion but it is small and poorly developed in paratypes. Legs yellowish, similar to those of *A. fasciata,* n. sp. (Fig. 1c) with distinct subapical yellowish band on dark hind femur, hind tibia also dark brown, mid femur paler than that of *A. fasciata* without a definite proximal dark band; fore femur with four spines; tarsi yellowish on proximal three tarsomeres, brown on distal two; fifth tarsomeres similar to those of *A. galindoi* (Fig. 6j) with 2–3 pairs of stout setae. Wing (Fig. 1f) infuscated, anterior veins brown, posterior veins paler; costal ratio 0.75; ratio of flagellum length to wing length 0.64. Halter dark brown.

Abdomen: Brown; gland rods extending the length of two segments; spermatheca (Fig. 1g) spheroid with distinct neck, measuring 0.078 by 0.059 mm.

Male.—Unknown.

Variation.—Wing length 1.94 (1.79–2.00, n = 7); breadth 0.65 (0.61–0.68, n = 7). Antennal ratio 1.62 (1.48–1.70, n = 6); flagellum length 1.22 (1.12–1.29, n = 6) mm. Ratio of flagellum length to wing length 0.63 (0.60–0.66, n = 6). Palpal ratio 3.07 (2.67–3.33, n = 7). Costal ratio 0.76 (0.74–0.77, n = 7). Fore femoral spines 4–7.

Distribution.—Argentina, Brazil.

Types.—Holotype female, 7 female paratypes, Brazil, Santa Catarina, Nova Teutonia, i.1971, F. Plaumann (Type no. USNM 76570). Additional paratypes:

ARGENTINA: Misiones, R. Piray, N of San Pedro, 22.xi.1973, O. S. Flint, Jr., 1 female.

BRAZIL: Nova Teutonia, xii.1962, F. Plaumann, 1 female (Canad. Nat. Coll.). Goias, Corumba, xi.1945, M. Barretto, 1 female.

Discussion.—*Palpomyia conifera* Macfie (1939), described from a male from Nova Teutonia, Brazil, has leg markings very similar to those of *A. pseudofasciata,* and we made a close comparision of descriptions to be sure our females were not conspecific with Macfie's male of *conifera.* In our opinion, Macfie had a different species, a true *Palpomyia,* with leg markings as in *pseudofasciata* but with a darkened area at the bases of the fore and mid tibiae; fore femur armed with 8–9 spines; wing hyaline, veins almost colorless. Macfie's figure of the male genitalia shows the parameres fused a considerable distance in midportion, placing the species in *Palpomyia.*

3. *Amerohelea dalcyi,* new species
Fig. 4

Diagnosis.—Distinguished from all other species in the genus by its small size (wing length less than 1.10 mm), fifth tarsomeres without stout setae, and brown legs with 0–2 fore femoral spines.

Holotype female.—Wing length 1.02 mm; breadth 0.41 mm.

Head: Brown; eyes barely separated (a distance of 0.01 mm). Antennal flagellum (Fig. 4a) light brown; flagellomeres with lengths in proportion of 15-10-10-9-10-10-10-12-20-21-21-22-35; antennal ratio 1.38. Palpus light brown; segments with lengths in proportion of 5-8-9-6-8; third segment with two ventromesal capitate sensilla; palpal ratio 1.80. Mandible with five large coarse teeth.

Thorax: Dark brown; anterior scutal spine not evident due to folding. Legs (Fig. 4b) brown with two small fore femoral spines; tarsi same color as femora and tibiae; fifth tarsomeres (Fig. 4c) short, stout, without ventral

stout setae present as in other members of the genus. Wing (Fig. 4d) hyaline, broad, with well developed anal angle; anterior veins light brown, posterior veins paler; costal ratio 0.79. Halter dark brown.

Abdomen: Brown; gland rods extending the length of 1½ segments; spermatheca (Fig. 4e) ovoid with long neck, measuring 0.067 by 0.039 mm; spermatheca of paratype (Fig. 4f) spheroid.

Male.—Unknown.

Variation.—The following values were recorded for the single female paratype: Wing length 1.07 mm; breadth 0.43 mm. Antennal ratio 1.49. Palpal ratio 2.00. Fore femur without ventral spines. Costal ratio 0.86.

Distribution.—Brazil; known only from the type locality.

Types.—Holotype female, Brazil, Amazonas, Rio Solimões, 1.viii.1961, E. J. Fittkau, at light (Type no. USNM 76571). One female paratype with same data except taken 15.ix.1961.

Discussion.—This species is named for Dalcy de O. Albuquerque, Museu Nacional, Rio de Janeiro, Brazil.

Amerohelea dalcyi most closely resembles *A. nelsoni,* n. sp., which differs by having a spermatheca that lacks a neck and by its larger size (wing length 1.50–1.61 mm). *Amerohelea spinellii,* n. sp. also resembles *A. dalcyi,* but differs by having a single pair of setae on its fifth tarsomeres and its larger size (wing length 1.11–1.50 mm).

4. *Amerohelea nelsoni,* new species
Fig. 5e–h

Diagnosis.—Distinguished from all other species by its oval spermatheca without neck, fifth tarsomeres without ventral setae, and brownish legs with fore femur armed with two spines.

Holotype female.—Wing length 1.50 mm; breadth 0.54 mm.

Head: Brown; eyes narrowly separated (a distance of 0.022 mm). Antennal flagellum (Fig. 5e) light brown; lengths of flagellomeres in proportion of 21-12-12-12-12-13-13-15-32-32-35-33-39; antennal ratio 1.55. Palpus light brown; segments with lengths in proportion of 7-9-13-9-10; third segment with 3–4 capitate sensilla on mesal surface; palpal ratio 2.60. Mandible with five large coarse teeth.

Thorax: Dark brown; anterior scutal spine well developed. Legs (Fig. 5g) brown, hind leg darkest, fore leg lightest in shade; fore femur armed with two ventral spines; tarsi brown, hind darkest, mid and fore lighter in shade; fifth tarsomeres rather short and stout, similar to those of *A. dalcyi* (Fig. 4c) and like that species lacking ventral setae. Wing (Fig. 5f) slightly infuscated with moderately broad anal angle; anterior veins brown, posterior veins paler; costal ratio 0.81. Halter brown.

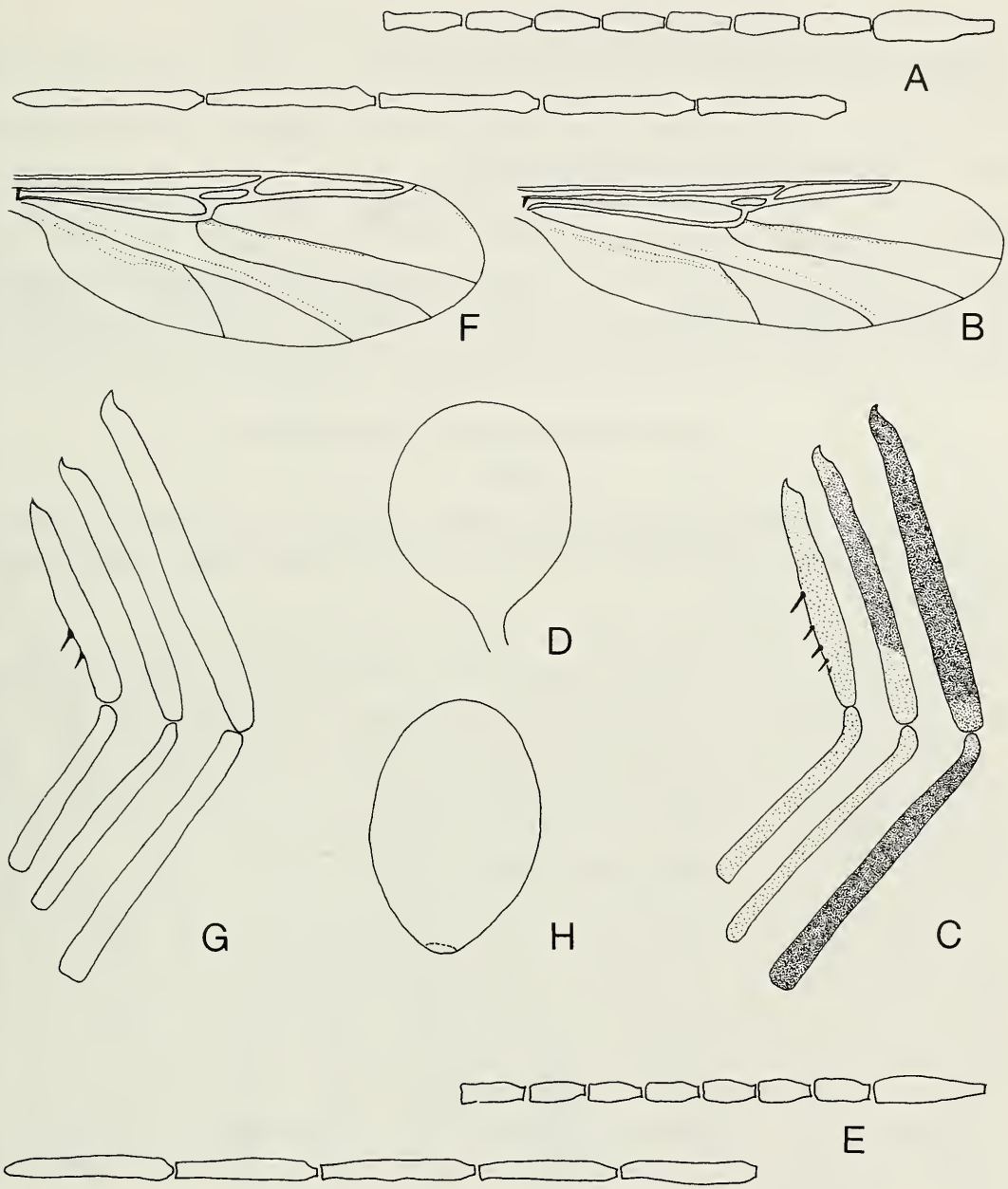

Fig. 5. *Amerohelea sordidipes* (A–D) and *A. nelsoni* (E–H): A, E, antennal flagella; B, F, wings; C, G, legs; D, H, spermathecae.

Abdomen: Golden brown; gland rods not sclerotized, invisible; spermatheca (Fig. 5h) ovoid without a neck, measuring 0.110 by 0.090 mm.

Male.—Unknown.

Variation.—Wing length 1.55 (1.50–1.61, n = 3) mm; breadth 0.57 (0.54–0.59, n = 3) mm. Antennal ratio 1.55 (1.50–1.59, n = 3). Palpal ratio 2.58 (2.33–2.60, n = 3). Costal ratio 0.81 (0.80–0.81, n = 3).

Distribution.—Brazil; known only from the type locality.

Types.—Holotype female, 2 female paratypes, Brazil, Amazonas, Rio Solimões, 15.ix.1961, E. J. Fittkau, at light (Type no. USNM 76572).

Discussion.—This species is named for Nelson Papavero, Museu de Zoologia, Universidade de São Paulo, Brazil.

A. nelsoni most closely resembles *A. dalcyi,* n. sp., which differs by its spheroid to pyriform spermatheca with a long neck and by its smaller size (wing length less than 1.10 mm). *A. spinellii,* n. sp. also resembles *A. nelsoni* but differs obviously by its pyriform spermatheca with a long neck, nonspinose fore femur, and fifth tarsomeres with a single pair of ventral setae.

5. *Amerohelea spinellii,* new species
Fig. 6

Diagnosis.—Distinguished from all other species in the genus by its brown legs with unarmed fore femur and its fifth tarsomeres armed with only a single pair of setae.

Holotype female.—Wing length 1.46 mm; breadth 0.52 mm.

Head: Brown; eyes slightly separated (a distance of 0.03 mm). Antennal flagellum (Fig. 6a) brown; lengths of flagellomeres in proportion of 20-12-12-12-12-13-14-17-28-26-26-26-29; antennal ratio 1.21. Palpus (Fig. 6b) brown; segments with lengths in proportion of 5-7-10-8-8; third segment with numerous capitate sensilla on ventromesal surface; palpal ratio 2.00. Mandible (Fig. 6d) with 5 large coarse teeth.

Thorax: Dark brown; anterior scutal spine (Fig. 6e) well developed. Legs (Fig. 6f) brown; fore femur unarmed; hind tibial comb (Fig. 6g) with six large setae; tarsi (Fig. 6h) brown; fifth tarsomeres (Fig. 6i) moderately short and stout with a single pair of ventral setae. Wing (Fig. 6c) slightly infuscated with moderately broad anal angle; anterior veins brown, posterior veins paler; costal ratio 0.80. Halter stem light brown; knob dark brown.

Abdomen (Fig. 6k): Brown; gland rods not sclerotized, invisible; spermatheca (Fig. 6j) pyriform with long neck; measuring 0.100 by 0.059 mm.

Male.—Unknown.

Variation.—Wing length 1.27 (1.11–1.50, n = 8) mm; breadth 0.49 (0.46–0.52, n = 8) mm. Antennal ratio 1.36 (1.21–1.44, n = 6). Palpal ratio 1.62 (1.42–2.00, n = 5). Costal ratio 0.79 (0.77–0.81, n = 8).

Distribution.—Colombia.

Types.—Holotype female, Colombia, Valle, Rio Micay, Casa de Suarez, 24.ix.1965, V. H. Lee, at Light (Type no. USNM 76573). Paratypes: same data as holotype, 1 female. Valle, Rio Raposo, i–x.1964, V. H. Lee, light trap, 8 females.

Discussion.—This species is named for Gustavo R. Spinelli, Insituto de Limnologia, Universidad Nacional de la Plata, Republica da Argentina.

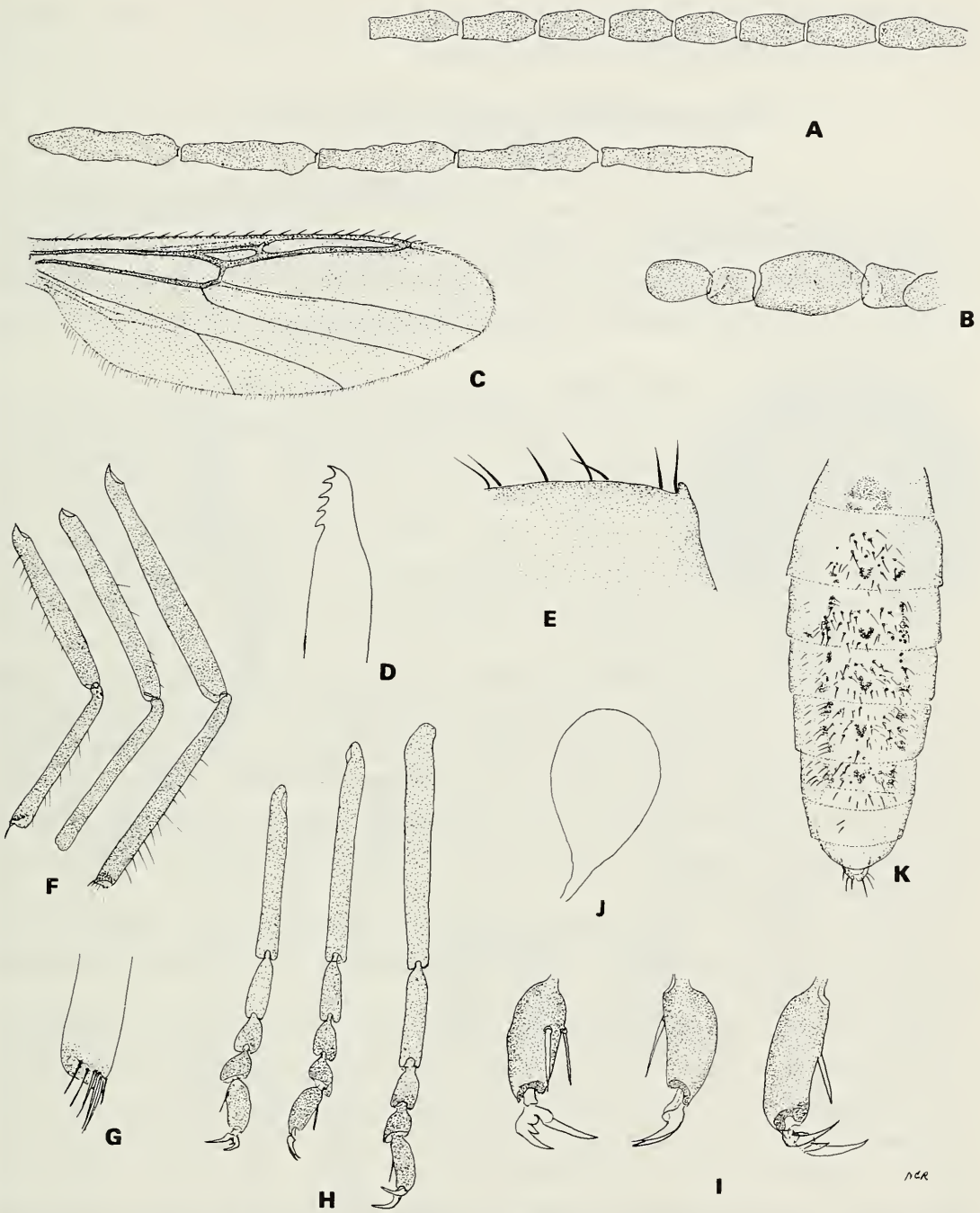

Fig. 6. *Amerohelea spinellii:* A, antennal flagellum; B, palpus; C, wing; D, mandible; E, anterior scutal spine; F, legs; G, hind tibial comb; H, tarsi; I, 5th tarsomeres and claws; J, spermatheca; K, abdomen.

Amerohelea spinellii most closely resembles *A. dalcyi,* n. sp., which differs in its smaller size (wing length less than 1.10 mm), ventral setae lacking on the fifth tarsomeres, and fore femur with one or two ventral spines. *Amerohelea nelsoni* is also closely related to *A. spinellii,* but differs in its

ovoid spermatheca with neck lacking, fore femur with two ventral spines, and fifth tarsomeres without ventral setae.

6. *Amerohelea galindoi*, new species
Figs. 3b, 7

Diagnosis.—Distinguished from all other species in the genus by its brown legs with fore femur bearing a single spine (rarely 0–2 spines), retort-shaped spermatheca, fifth tarsomeres with 1–2 pairs of stout ventral setae, and male genitalia with slender triangular aedeagus and claspettes with recurved, slender, distal portions.

Holotype female.—Wing length 1.61 mm; breadth 0.50 mm.

Head (Fig. 7d): Dark brown; eyes very narrowly separated (a distance of 0.01 mm). Antennal flagellum (Fig. 7a) brown; lengths of flagellomeres in proportion of 23-15-14-16-16-16-17-20-42-41-43-43-45; antennal ratio 1.64; flagellum very long and slender, total length 1.36 mm. Palpus (Fig. 7b) brown; segments with lengths in proportion of 7-11-13-9-13; third segment with 4–5 capitate sensilla on mesal surface; palpal ratio 2.33. Mandible (Fig. 7e) with 5–6 large coarse teeth.

Thorax: Dark brown; anterior scutal spine (Fig. 7f) well developed. Legs (Fig. 7g) brown, hind leg darkest, fore leg lightest in shade; fore femur bearing a single ventral spine; hind tibial comb (Fig 7h) with 7–8 large setae; tarsi (Fig. 7i) brown, hind darkest, fore lightest in shade; fifth tarsomeres (Fig. 7j) with two pairs of stout setae. Wing (Fig. 7c) very slightly infuscated, anal angle narrow; anterior veins brown, posterior veins paler; costal ratio 0.80. Halter dark brown.

Abdomen (Fig. 7l): Dark brown; gland rods extending the length of 1½ segments; spermatheca (Fig. 7k) retort-shaped with well-defined neck, measuring 0.07 by 0.05 mm.

Allotype male.—Similar to female but smaller, with the usual sexual differences. Genitalia as in Fig. 3b. Ninth sternum with straight base, about 4 times broader than long; ninth tergum tapering slightly on proximal half, then more abruptly on distal half to broadly rounded tip, cerci extending the length of basimeres and each bearing a single large apical seta. Basimere slightly curved, about twice as long as broad with broad base and tapering gradually distally; telomere ⅔ length of basimere, tapering slightly distally to broad, slightly hooked tip. Aedeagus slightly longer than broad, membrane and ventral surface spiculate, basal arch over ⅓ of total length; basal arm straight, very heavily sclerotized; distal portion tapering abruptly and becoming very slender, the tip of the underlying membrane crescent-shaped. Claspettes fused basally; basal arm very heavily sclerotized, recurved nearly 180°, tip paddle-shaped with slender mesally directed portion; distal portion divided, each part broad proximad, then tapering distally with recurved tips curving towards each other.

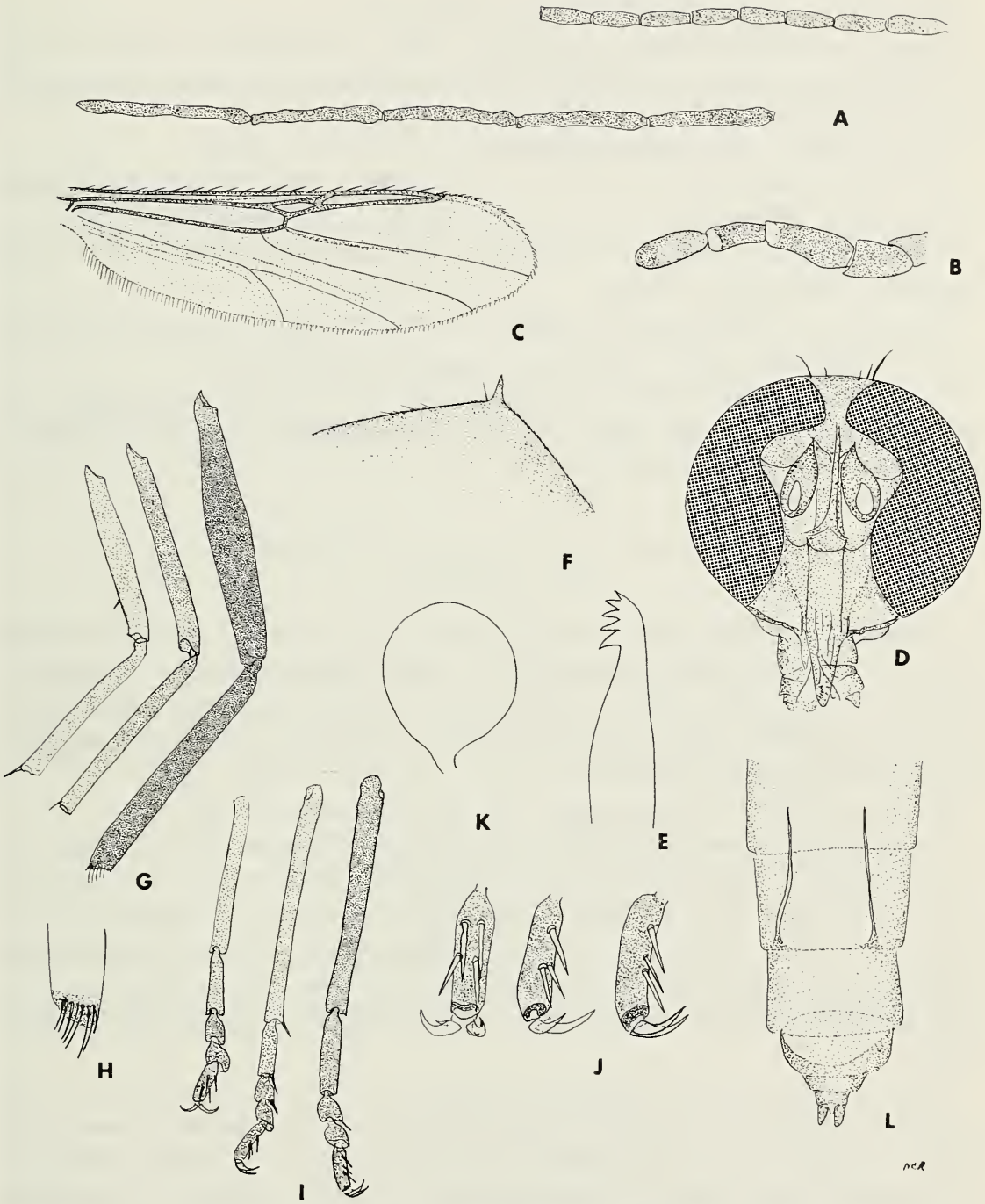

Fig. 7. *Amerohelea galindoi:* A, antennal flagellum; B, palpus; C, wing; D, head; E, mandible; F, anterior scutal spine; G, legs; H, hind tibial comb; I, tarsi; J, 5th tarsomeres and claws; K, spermatheca; L, abdomen.

Variation.—Wing length 1.63 (1.46–1.96, n = 10) mm; breadth 0.50 (0.46–0.54, n = 10) mm. Antennal ratio 1.59 (1.53–1.65, n = 9). Palpal ratio 2.32 (1.83–2.83, n = 10). Costal ratio 0.80 (0.78–0.82, n = 10). Fore femoral spines usually one, rarely 0–2.

Distribution.—Colombia, Panama, Venezuela.

Types.—Holotype female, Colombia, Valle, Rio Raposo, ii.1964, V. H. Lee, light trap (Type no. USNM 76574). Allotype male, same data except ii.1965. Paratypes, 9 males, 60 females, as follows:

COLOMBIA: Same data as allotype, 8 males, 57 females.

PANAMA: Bocas del Toro Prov., Almirante, iii.1953, F. S. Blanton, light trap, 1 male, 2 females.

VENEZUELA: Zulia, El Tucuco, Sierra de Perija, 28.i.1978, J. B. Heppner, light trap, 1 female.

Discussion.—This species is named for Pedro Galindo, formerly director of the Gorgas Memorial Laboratory, Republica de Panama.

A. galindoi most closely resembles *A. vargasi,* n. sp., which differs in having two fore femoral spines and the male genitalia with broad, straight, distal portions on the claspettes.

7. *Amerohelea vargasi,* new species
Figs. 3c, 8a–c

Diagnosis.—Distinguished from all other species in the genus by its brown legs with the fore femur bearing two ventral spines (rarely 1–3 spines), spherical spermatheca, fifth tarsomeres with two pairs of stout ventral setae, and male genitalia with slender triangular aedeagus and broad, straight, distal portions on the claspettes.

Holotype female.—Wing length 1.96 mm; breadth 0.59 mm.

Head: Dark brown; eyes barely separated (a distance of 0.01 mm). Antennal flagellum (Fig. 8a) dark brown; lengths of flagellomeres in proportion of 25-17-17-17-18-18-20-24-46-46-49-52-64; antennal ratio 1.65; flagellum very long and slender, total length 1.53 mm. Palpus dark brown; segments with lengths in proportion of 8-10-14-12-14; third segment with 3–4 capitate sensilla on mesal surface; palpal ratio 2.80. Mandible with five large coarse teeth.

Thorax: Dark brown; anterior scutal spine small, poorly developed. Legs similar to those of *A. galindoi,* n. sp. (Fig. 7g), dark brown, fore femur lighter brown, bearing two ventral spines; tarsi brown, similar to those of *A. galindoi,* n. sp. (Fig. 7i); fifth tarsomeres similar to those of *A. galindoi* (Fig. 7j) with two pairs of stout setae. Wing (Fig. 8b) very slightly infuscated with narrow anal angle; anterior veins brown, posterior veins paler; costal ratio 0.78. Halter dark brown.

Abdomen: Brown; gland rods extending length of 2½ segments; spermatheca (Fig. 8c) spherical with rather short neck, measuring 0.08 by 0.07 mm.

Allotype male.—Similar to female but smaller, with the usual sexual differences. Genitalia as in Fig. 3c. Ninth sternum with straight base, about

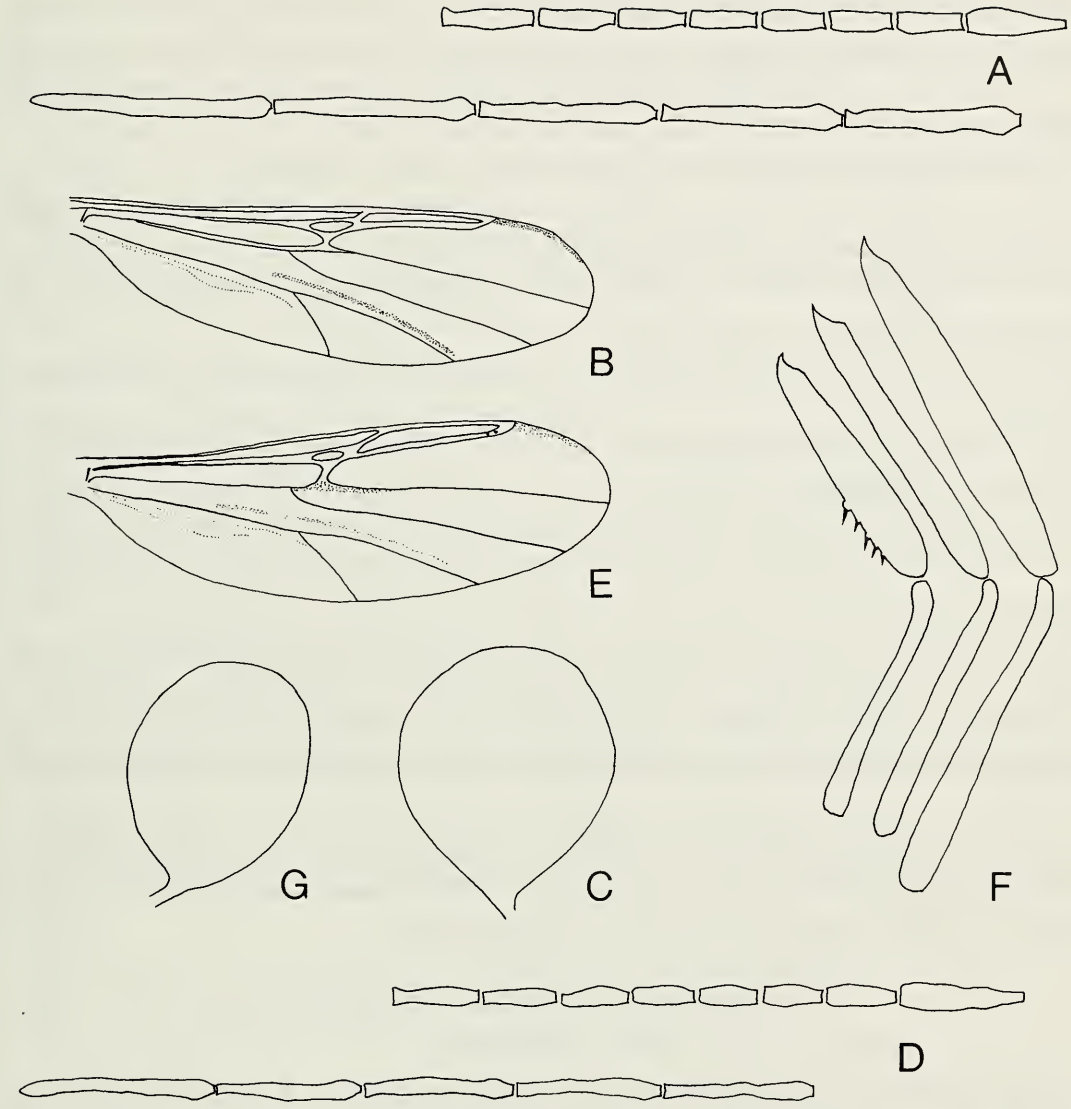

Fig. 8. *Amerohelea vargasi* (A–C) and *A. ronderosi* (D–G): A, D, antennal flagella; B, E, wings; C, G, spermathecae; F, legs.

four times broader than long; ninth tergum tapering slightly on proximal fifth, then more abruptly distally to rounded tip. Basimere slightly curved, about twice as long as broad with broad base tapering slightly distad; telomere nearly as long as basimere, tapering very slightly distad to curved tip. Aedeagus almost 1½ times longer than broad, membrane and ventral surface spiculate, basal arch over ½ of total length; basal arm slightly curved, very heavily sclerotized; distal portion tapering abruptly and becoming very slender, the tip of the underlying membrane crescent-shaped. Claspettes fused on basal portion; basal arm heavily sclerotized, doubly recurved, tip broad and pointed; distal portion divided, each part nearly parallel sided, tip broadly rounded.

Variation.—Wing length 1.87 (1.71–2.20, n = 10) mm; breadth 0.58 (0.54–0.66, n = 10) mm. Antennal ratio 1.61 (1.48–1.74, n = 10). Palpal ratio 2.82 (2.43–3.40, n = 10). Costal ratio 0.79 (0.77–0.82, n = 10). Fore femoral spines usually two, rarely 1–3.

Distribution.—Belize, Costa Rica, El Salvador, Mexico.

Types.—Holotype female, Belize, Augustine, 1.vii.1968, W. L. Haase, black light (Type no. USNM 76575). Allotype male, Belize, Cayo Dist., Western Highway MP66, vi.1968, W. L. Haase, light trap. Paratypes, 16 females, as follows:

BELIZE: Same data as holotype, 6 females; same data as allotype, 2 females.

COSTA RICA: San Jose, San Isidro, Perez Zeledon, 2175 ft, vii.1962, F. S. Blanton, light trap, 1 female.

EL SALVADOR: San Vicente, Santo Domingo, 22.xi.1966, F. S. Blanton, 1 female. Sonsonate, Armenia, 1.viii.1966, F. S. Blanton, light trap, 1 female.

MEXICO: Oaxaca, Palomares, 5–21.ix.1961, R. and K. Dreisbach, 1 female. Vera Cruz, Acayucan, 23.x.1957, R. and K. Dreisbach, 1 female.

Discussion.—This species is named for Luis Vargas, Consejo Tecnico de la Campaña Nacional para la Erradicacion del Paludisma, Mexico, D. F., Mexico.

A. vargasi most closely resembles *A. galindoi,* n. sp., which differs in having the fore femur usually bearing a single ventral spine and the male claspettes with recurved, slender, distal portions.

8. *Amerohelea ronderosi,* new species
Figs. 3d, 8d–g

Diagnosis.—Distinguished from all other species in the genus by its uniformly brownish legs, the fore femur swollen and bearing 3–5 spines, antennal ratio 1.35, male genitalia with broad triangular aedeagus, and claspettes with broad, straight, distal portions.

Holotype female.—Wing length 1.86 mm; breadth 0.61 mm.

Head: Dark brown; eyes very narrowly separated (a distance of 0.01 mm). Antennal flagellum (Fig. 8d) brown; flagellomeres with lengths in proportion of 27-19-17-17-18-19-21-24-42-40-42-40-54; antennal ratio 1.35; flagellum long and slender, total length 1.40 mm. Palpus brown; segments with lengths in proportion of 8-13-14-12-9; third segment with 2–3 capitate sensilla on mesal surface; palpal ratio 2.33. Mandible with 5–6 large coarse teeth.

Thorax: Dark brown; anterior scutal spine small, poorly developed. Legs (Fig. 8f) uniformly brown; fore femur swollen, bearing 3–5 spines; tarsi brown, lightest on fore leg, mid basitarsus with palisade setae as on hind leg; fifth tarsomeres similar to those of *A. galindoi,* n. sp. (Fig. 7j) with two

pairs of stout setae on fore leg, one pair each on mid and hind legs. Wing (Fig. 8e) slightly infuscated with narrow anal angle; anterior veins brown, posterior veins paler; costal ratio 0.83. Halter dark brown.

Abdomen: Brown; gland rods not sclerotized, invisible; spermatheca (Fig. 8g) slightly retort shaped with long slender neck, measuring 0.090 by 0.060 mm.

Allotype male.—Similar to female but smaller, with the usual sexual differences. Genitalia as in Fig. 3d. Ninth sternum with straight base, over twice as broad as long; ninth tergum tapering rather abruptly to a narrow rounded tip, cerci extending slightly beyond basimeres, tip with a single long seta. Basimere distinctly curved, about twice as long as broad, base with slender mesal extension; telomere more than half the length of basimere, tapering slightly distad to broad truncate tip. Aedeagus nearly twice as long as broad, membrane and ventral surface spiculate, basal arch over half of total length; basal arm nearly straight, very heavily sclerotized; distal portion tapering very slightly to broadly rounded tip, underlying membrane extending beyond tip, broadly crescent shaped. Claspettes apparently divided but perhaps fused on extreme basal portion; basal arm heavily sclerotized, recurved about 120°, tip paddle-shaped; distal portion divided, each portion straight and nearly parallel sided, tapering to narrow rounded tip.

Distribution.—Colombia; known only from the type locality.

Types.—Holotype female, allotype male, two male paratypes, Colombia, Valle, Rio Raposo, 15.vi.1964, V. H. Lee, light trap (Type no. USNM 76576).

Discussion.—This species is named for Ricardo Ronderos, Museo de La Plata, Universidad Nacional de la Plata, Argentina.

A. ronderosi most closely resembles *A. sordidipes,* which has a slender fore femur bearing 4–5 spines, brownish legs with hind leg darkest, mid and fore legs lighter in shade, and antennal ratio 1.39–1.49. The male of *A. sordidipes* is unknown. The male genitalia of *A. vargasi* are similar to those of *A. ronderosi,* but its aedeagus is very narrow distally. Females of *A. vargasi* differ by having the fore femur slender and bearing two, rarely three, ventral spines.

9. *Amerohelea sordidipes* (Macfie), new combination
Fig. 5a–d

Palpomyia sordidipes Macfie, 1939:209 (female; Brazil; Lane, 1947:440 (male; fig. genitalia; Brazil); Lane, Forattini and Rabello, 1955:81 (pupa; figs.; Brazil); Lane, 1960:388 (in key; recorded Para, Brazil).

Diagnosis.—Distinguished from all other species in the genus by its brown legs, hind leg darkest, distal fourth of mid femur, mid tibia and fore leg light

brown; fore femur slender and bearing 3–5 spines; spermatheca spherical; antennal ratio 1.39–1.49.

Female.—Wing length 1.84 mm; breadth 0.55 mm.

Head: Dark brown; eyes narrowly separated (a distance of 0.03 mm). Antennal flagellum (Fig. 5a) brown; flagellomeres with lengths in proportion of 25-15-15-15-15-15-16-20-37-39-39-41-47; antennal ratio 1.49; flagellum long and slender, total length 1.25 mm. Palpus light brown; segments with lengths in proportion of 6-10-19-11-12; third segment with 4–5 capitate sensilla; palpal ratio 3.80. Mandible with five large coarse teeth.

Thorax: Dark brown; anterior scutal spine well developed. Legs (Fig. 5c) dark brown, proximal ¾ and distal fourth of mid femur, mid tibia and fore leg light brown; fore femur slender with 3–4 spines; tarsi brown, hind tarsus darkest, mid and fore tarsi lighter in shade; fifth tarsomeres similar to those of *A. galindoi* (Fig. 7j) with two pairs of stout setae. Wing (Fig. 5b) very slightly infuscated, anal angle narrow; anterior veins brown, posterior veins paler; costal ratio 0.78. Halter dark brown.

Abdomen: Brown; gland rods extending the length of 2½ segments; spermatheca (Fig. 5d) spheroid with long neck, measuring 0.078 by 0.052 mm.

Male (after Lane 1947).—Ninth sternum with deep, caudomedian excavation. Basimere nearly straight, about three times as long as broad; distomere slightly curved, slender, tapering to tip. Aedeagus narrow at base, basal arch high and narrow, extending to more than half of total length, tip broad and bluntly rounded. Claspettes narrowly joined at bases, each with slender, sinuate, basal arm, distal free portions nearly straight, each only slightly tapered to moderately slender tip.

Variation.—Wing length 1.80 (1.62–1.89, n = 8) mm; breadth 0.56 (0.50–0.59, n = 7) mm. Antennal ratio 1.45 (1.39–1.49, n = 7). Palpal ratio 3.15 (2.50–3.80, n = 8). Costal ratio 0.79 (0.78–0.81, n = 8). Fore femoral spines 3–5.

Distribution.—Bolivia, Brazil.

Types.—Syntypes, 2 females, Brazil, Santa Catarina, Nova Teutonia, 20.xi.1937, F. Plaumann (in British Museum (Nat. Hist.), London).

Specimens examined.—BOLIVIA: Santa Cruz Prov., San Esteban Mayurina, 120 ft, 2–5.x.1959, Cummings, light trap, 8 females.

Discussion.—This species most closely resembles *A. ronderosi,* n. sp., which differs by its uniformly brownish legs, its swollen fore femur bearing 3–5 spines, and its antennal ratio 1.35. Females of *A. vargasi,* n. sp. also resemble *A. sordidipes,* but their fore femora usually have two spines, rarely three spines, and their legs are more uniformly brownish.

According to the original description, the Brazilian types of *A. sordidipes* differ from the Bolivian females described above as follows: Wing length "about 2 mm; greatest breadth 0.5 mm." Lengths of three distal palpal segments in proportion of 17-12-14; antennal ratio 1.25; costal ratio 0.8; fore

femur with three spines; spermatheca 0.057 mm in diameter, duct sclerotized for 0.017 mm. We are confident that our material agrees closely enough with the original description to identify our species as *A. sordidipes*.

We must comment on Lane's (1960) treatment of *A. sordidipes* which he correctly identified and located in his key to Neotropical *Palpomyia*. His couplets 31 and 32 read as follows:

31. Femora of fore legs armed with 3 or 4 spines; segment V or tarsi armed; only one spermatheca 32
– Femora of fore legs armed with 6 to 10 spines; segment V of tarsi not armed; two or three spermathecae .... *subfuscula* I. & M., 1931
32. Abdomen with shining white pruinosity ..... *tamoioi,* sp. n.
– Abdomen shining blackish ..... *sordidipes* Macfie, 1939

Checking the description of *P. tamoioi,* sp. n. on page 388, we find a species keying out near *A. vargasi,* n. sp. in our key, but the species is larger, wing length 2.8 mm. It also differs in having the wing hyaline, halter with yellowish stem and black knob, tarsi with proximal three tarsomeres yellow on fore and mid legs, on proximal two tarsomeres on hind leg; abdomen with tergum I shining black, II shining black but white pruinose in middle; III–VII covered with white pruinosity except for round shining nude area at each side anteriorly, and segments iv to apex telescoping one into the other and thus forming a gradually narrowing structure. Lane stated that the holotype female had two long slender ventral spines on the fore femur. He also mentioned that his description was from a dry specimen, and we must conclude that the gland rods and spermathecae were not examined. Thus we cannot assume that *Palpomyia tamoioi* belongs in *Amerohelea,* and moreover the dorsal white pollinose pattern and distal telescoping of the abdomen, the hyaline wing, the pale halter stem, and yellowish bases of the tarsi make it seem more likely that the species is a true *Palpomyia*.

10. *Amerohelea frontispina* (Dow and Turner), new combination
Fig. 9

Bezzia frontispina Dow and Turner, 1976:138 (female; Texas; figs.).

Diagnosis.—Distinguished from all other species in the genus by its wing with one radial cell, and by the distinctive frontoclypeus with stout spines.

Female.—Wing length 1.35 (1.20–1.41, n = 10) mm; breadth 0.50 (0.44–0.52, n = 10) mm.

Head (Fig. 9d): Dark brown; frontoclypeus with numerous stout spines. Antennal flagellum (Fig. 9a) brown; basal halves of proximal eight flagellomeres and bases of 9–15 lighter brown; flagellomeres with length in proportion of 16-11-11-11-11-11-11-13-26-25-24-26-32; antennal ratio 1.33 (1.25–1.58, n = 10). Palpus (Fig. 9b) medium brown; segments with lengths in

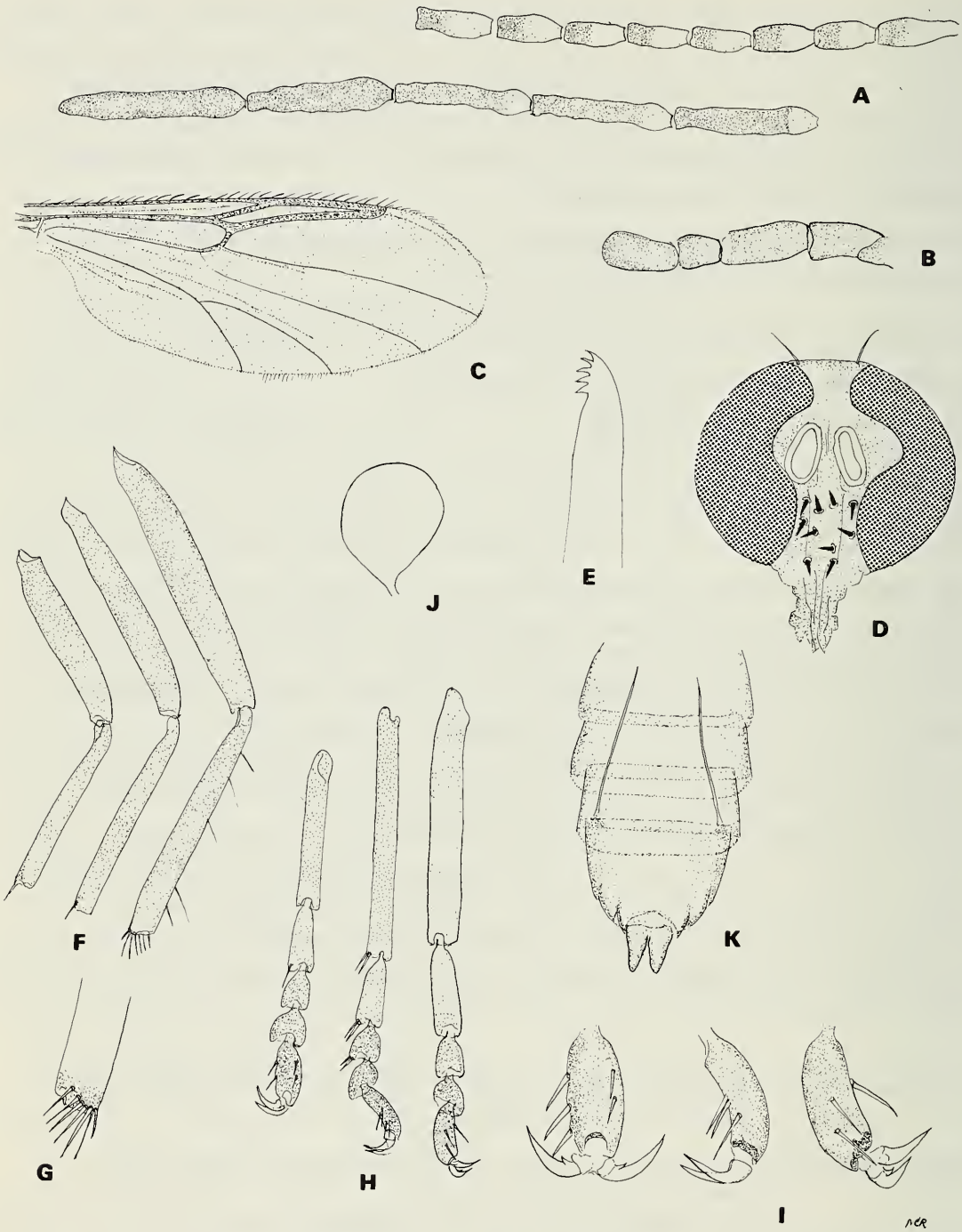

Fig. 9. *Amerohelea frontispina:* A, antennal flagellum; B, palpus; C, wing; D, head; E, mandible; F, legs; G, hind tibial comb; H, tarsi; I, 5th tarsomeres and claws; J, spermatheca; K, abdomen.

proportion of 5-8-11-7-9; third segment with 2–3 capitate sensilla on ventromesal surface; palpal ratio 2.04 (1.83–2.20, n = 6). Mandible (Fig. 9e) with five large coarse teeth.

Thorax: Dark brown with small anterior scutal spine. Legs (Fig. 9f) dark

brown, fore femur unarmed, hind tibial comb (Fig. 9g) with seven large setae; tarsi (Fig. 9f) with proximal two tarsomeres paler, fifth tarsomeres (Fig. 9i) with 3–5 stout setae. Wing (Fig. 9c) hyaline, moderately broad with one radial cell and well developed anal angle; anterior veins brown, posterior veins paler; costal ratio 0.75 (0.73–0.78, n = 10). Halter dark brown.

Abdomen (Fig. 9k): Dark brown; pleura reddish purple; gland rods extending the length of three segments; spermatheca (Fig. 9j) pyriform with moderately long neck, measuring 0.074 by 0.052 mm.

Male.—Unknown; although we have examined a large number of females from many localities, we have been unable to identify males of this species; the species may be parthenogenic, but more likely we have overlooked the males as belonging to another species.

Distribution.—Widespread from California and Texas south to Colombia and Venezuela.

Type.—Holotype female, Texas, Gillespie Co., Fredericksburg, 2.vii.1967, Blanton and Borchers, light trap (Type no. USNM 76578).

Specimens examined.—

ARIZONA: Santa Cruz Co., Pena Blanca, 10 mi W Nogales, 1.viii.1961, Werner, Johnson and Nutting, light trap, 2 females. Yavapai Co., Oak Creek and Verde River, 9–10.vi.1977, M. W. Sanderson, light trap, 3 females.

BELIZE: Cayo Dist., Western Highway MP66, vi.1969, W. and D. Haase, light trap, 16 females.

CALIFORNIA: Trinity Co., Union Hill Lake, 1 mi NE Douglas, 28.vii.1970, S. Frommer and L. LaPre, 2 females.

COLOMBIA: Valle, Rio Raposo, iii.1963, V. H. Lee, light trap. 2 females.

GUATEMALA: Suchitepequez Prov., Rio Sis, 22 km S Finca La Maquina, vi.1966, O. S. Flint, 3 females; San Antonio Suchitepequez, 6.vii.1965, P. J. Spangler, malaise trap, 2 females.

HONDURAS: Comayagua Prov., Comayagua, x.1967, F. S. Blanton, light trap, 2 females. Francisco Morazan, Casa Viejas, v.1963, J. F. Matta, 4 females. Choluteca, Jicaro-Galán Jct. 5 mi W, 8.vii.1965, P. J. Spangler, light trap, 24 females. Valle, Nacaome, 28.v.1964, F. S. Blanton, light trap, 28 females.

MEXICO: Chiapas, Puenta Macalapa, 22.v.1964, F. S. Blanton, light trap, 1 female. Morelos, El Salto Falls, 17.vi.1969, W. & D. Haase, light trap, 1 female. Nayarit, Tepec, 21.viii.1964, F. S. Blanton, light trap, 1 female. Sonora, 5 mi W Alamos, 14.viii.1959, Werner & Nutting, light trap, 12 females; 10 mi E Navajoa, 13.viii.1959, Werner & Nutting, light trap, 6 females. Tabasco, Rio Puyacatengo, E of Teapa, 28.vii.1966, Flint & Ortiz, light trap, 1 female. Veracruz, Cuitlahuac, 10.viii.1964, P. J. Spangler, light trap, 3 females.

PANAMA: Canal Zone, Gamboa, Rio Agua Salud, vii.1967, W. W. Wirth, light trap, 1 female.

TEXAS: Gillespie Co., Fredericksburg, 2–30.vii.1967, Blanton & Borchers, light trap, 4 females. Kimble Co., Llano River, 23.v.1972, W. W. Wirth, malaise trap, 1 female. Real Co., Garner St. Park, 23.v.1972, W. W. Wirth, light trap, 6 females; Rio Frio, Leakey, 23.v.1972, W. W. Wirth, malaise trap, 1 female. Val Verde Co., Juno, Devil's River, 13.vi.1953, W. W. Wirth, 1 female.

VENEZUELA: Aragua Prov., Ocumare, 19.ii.1969, P. & P. Spangler, 1 female.

Discussion.—Although this species possesses only a single radial cell, we are assigning it to *Amerohelea* because of its single spermatheca, single pair of gland rods arising near the lateral margins of the eighth abdominal segment, and fifth tarsomeres with stout ventral setae, characters present in other members of the genus, and not typical of the genus *Bezzia*. We will not be overly confident of this assignment until we can examine the male for characters of the genitalia.

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